

# NETernity SWE440

## Fully Managed 3U VPX 10/40GigE Ethernet Switch

The NETernity™ SWE440 is a fully managed (Layer 2/3) 3U VPX Ethernet switch designed to meet the most demanding requirements for network switching in tactical applications. The SWE440, with its configuration options of up to 32 10GigE or 8 40GigE ports (or combination of the two) and OpenWare™ switch management software, is designed to support high performance embedded computing (HPEC) applications.

The switch is available in both air-cooled and conduction-cooled versions, providing multiple OpenVPX configurations supporting a mix of dataplane and control plane ports. The SWE440 supports multiple Ethernet rear I/O connectivity options including 10GBase-KR, 10GBase-KX4, 40GBase-KR4, 10GBase-T and 1000Base-KX. In addition, on some models there is an option to support two SFP+ and two 1000BaseT ports for air cooled configurations.

The SWE440 delivers full wire-speed switching that can be fully managed and easily deployed. Proven, high-performance architecture and a multilayer switching fabric provide a rich feature set, broad functionality, scalability, and product longevity.

Based on leading edge high-performance switch fabric with integrated processor, the SWE440 has Layer 2/3 switching capabilities as well as the ability to support higher Layer 4-7 functionality when required.

The switch management environment for the SWE440 is Abaco's in-house developed and supported OpenWare™. OpenWare™ offers comprehensive management features for Layer 2/3 switching and dynamic routing, and provides support for a wide range of network protocols and MIBs with extensive capabilities for multicast, Quality of Service, VLANs, and differentiated services.

OpenWare™ can be modified to meet particular customer requirements, and provides a number of ways to manage the switch via serial console, SNMP, Telnet, SSH or web interface. The sanitization capability allows a user to overwrite non-volatile storage as required.

The SWE440 provides a migration path for current 3U switches allowing customers to adopt new, industry-leading network speeds.

### FEATURES:

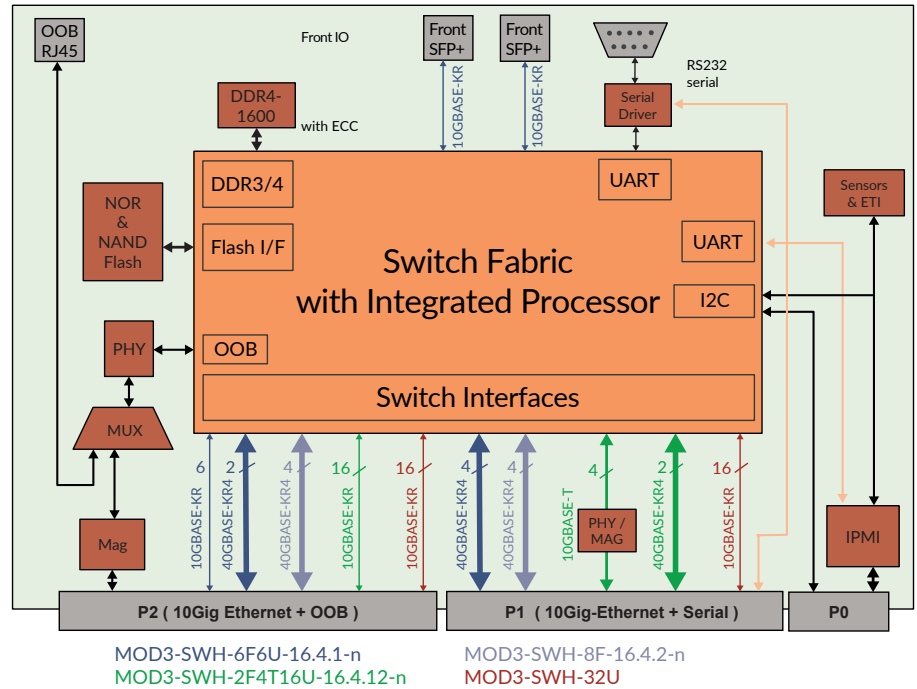
- 3U VPX form factor
- VITA 65 OpenVPX compliant
- OPenVPX profiles:
  - MOD3-SWH-6F6U-16.4.1-n
  - MOD3-SWH-8F-16.4.2-n
  - MOD3-SWH-2F4T16U-16.4.12-n
  - MOD3-SWH-32U
- Supports connectivity and performance options for 40GBase-KX4, 10GBase-KR, 10GBase-KX4, 10GBase-T and 1000BaseKX.
- Two SFP+ and two 1000BaseT ports on front panel available for air-cooled models
- Serial Console
- OpenWare™ Switch Management Software
- Wire speed Layer 2/3 switching including IPv6
- Multicast support: IGMP Snooping Querier and MLD Snooping Querier
- Allows up to 4,096 VLANs
- L-3 protocol support including OSPF, RIP and VRRP
- Precision Time Protocol 1588v2 Transparent Clock Support
- Air-cooled and conduction-cooled
- Rugged Levels 1 through 5 available
- Built-in Test
- Denial-of-service attack prevention
- Sanitization capability
- Board Management Microcontroller (BMM)
- Spanning Tree and Link Aggregation
- Remote management via Telnet, SSH and SNMPv3
- Support for Jumbo Frames up to 9KB
- Five levels of ruggedization available

# NETernity SWE440 Fully Managed 3U VPX 10/40GigE Ethernet Switch

## KEY SPECIFICATIONS:

- IEEE 802.3-2005
- IPMI 2.0
- IEEE 802.1D (Prioritization)
- IEEE 802.3ad (Link Aggregation)
- IEEE 802.1Q (VLAN tagging)
- IEEE 802.1Q-2005 (Multiple Spanning Tree)
- IEEE 802.1X (Port Authentication)
- IEEE 802.3az Energy Efficient Ethernet
- IETF RFC 4541 (IGMP & MDL Snooping)
- RoHS 2011/65/EC compliant
- ANSI/VITA 46.0-2007
- ANSI/VITA 46.7-2012
- VITA 48.2 (REDI)

## Block diagram



## Specifications

### Physical Interface

- MOD3-SWH-2F4T16U-16.4.12-n  
16 10GBASE-KR, 4 10GBASE-T, and 2 40GBASE-KR4/10GBASE-KR ports routed to the VPX backplane, along with Ethernet management port and serial console ports.
- MOD3-SWH-8F-16.4.2-n  
8 40GBASE-KR4 or 8 10GBASE-KX4 routed to the VPX backplane along with the Ethernet management port and serial console ports.
- MOD3-SWH-6F6U-16.4.1-n  
6 40GBASE-KR4 and 6 10GBASE-KR ports routed to the VPX backplane, along with Ethernet management port and serial console ports.
- MOD3-SWH-32U  
32 10GBASE-KR ports routed to the VPX backplane along with the Ethernet management port and serial console ports.
- Front panel supports up to 2 SFP+ and two 1000BaseT, Out-of-Band Serial console ports (air-cooled models only)

### Form Factor

- 3U OpenVPX

### Power Requirements (Typical)

- Estimated power is 30 - 40 watts depending on configuration

### MTBF

- TBD

## Ordering information

### SWE440 – ABCD

- A** Designates the rugged level which can be air cooled models 1, 2, 3 or conduction cooled models 4 or 5
  - B** Designates the board variant:
    - 01 MOD3-SWH-6F6U-16.4.1  
6 40GBASE-KR4 + 6 10GBASE-KR ports
    - 02 MOD3-SWH-8F-16.4.  
8 40GBASE-KR4 ports
    - 10 MOD3-SWH-6F8U-16.4.10  
6 40GBASE-KR4 + 8 10BASE-KR ports
    - 12 MOD3-SWH-2F4T16U-16.4.12 2x 40GBASE-KR4 + 4x 10GBASE + 16 10BASE-KR ports
    - C1 MOD3-SWH-32U 32 10GBASE-KR ports
  - C** Designates 0 for no front panel ports; 2 for two 1000BaseT and two SFP+ port for air cooled models (note: when B=02, 10, or C1, then front panel ports aren't available, so this would be 0 in the configuration choice)
  - D** Designates type of pitch mechanics: 6=1" pitch VITA 48; C=1" VITA 48.2 2LM (applies only to rugged LVL 4 and 5).
- SWE440RTM1-16** Rear Transition Module with 6 QSFP+, 6 SFP+, serial, and out of band management ports; 1" pitch VITA 48 mechanics. Note that QSFP+ and SFP+ transceivers are not supplied, but can be ordered separately.

### Example configurations are:

- SWE440-10126** LVL1 build with 6 40GBASE-KR4 + 6 10GBASE-KR rear I/O ports plus front panel 1000BaseT and SFP+ ports, VITA 48.1" pitch mechanics.
- SWE440-4C10C** Rugged LVL4 build, 32 10GBASE-KR ports, VITA 48.2 2LM 1" pitch mechanics.

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